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ORIGINAL ARTICLE

Effectiveness of Interventional Program on Nurses' Practices concerning Physiotherapy Protocol at Intensive Care Units in AL-Nasiriyah City

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ABSTRACT

Background: Respiratory physiotherapy is a treatment option that addresses secretory elimination and promotes airway clearance, hence reducing breathing workload, promoting lung expansion, and preventing collapse. Most respiratory disorders benefit from chest physiotherapy as an adjuvant treatment, including COPD, bronchiectasis, and cystic fibrosis, as well as neuromuscular diseases and peri-operative care, particularly in upper abdominal procedures**.** The goal of the study is to see how effective the intervention program was in altering the nursing staff's practices of physiotherapy protocol in intensive care unit.

Methods: Pre-experimental (one group pre-test- post-test) design was carried out about physiotherapy protocol at an intensive care unit at AL-Nasiriyah Heart Center and AL-Nasiriyah General Hospital in AL-Nasiriyah city. The sample was non-probability (purposive). The data was analyzed using descriptive statistics and SPSS.

Results: Statistically significant improvements (pre-test 38.9 %, post-test 84.64%) of nurses' knowledge and practice of physiotherapy after the educational program.

Conclusion: interventional program has a positive effect for increasing nurses' knowledge and practice of physical therapy protocol. The Application of physiotherapy guidelines issued by the American Association of Respiratory Care's (AARC) and more studies should be done of the physiotherapy protocol in the intensive care unit.

Keywords: Intensive Care Units/ Interventional Program/ Physiotherapy/Practice

INTRODUCTION

Respiratory problems are one of the most prevalent reasons for admission to the intensive care unit [(1)] . Physiotherapy is a type of treatment that is used Patients with acute and chronic respiratory disorders, including obstructive and restrictive lung diseases, patients with neuromuscular disorders, patients in for major surgery, and patients with critical illness in intensive care are all treated non-medically. Physical therapy can help with a variety of respiratory problems, including airflow blockage, mucus retention, changes in ventilatory pump function, dyspnea, poor exercise performance, and poor quality of life [(2)].

Chest physiotherapy seems to be an important adjuvant treatment for patients with pulmonary infections because it helps clear the airways, improves lung compliance, and prevents lung consolidation [(3)].

In most industrialized countries, physiotherapy is an important aspect of the multidisciplinary management of critically ill patients [(4)]. Early rehabilitation of critically ill patients and its implications on length of stay, number of ventilator-free days, and functional outcomes are currently the focus of critical care research [(5)].

Physiotherapy is a shared responsibility for nurses with physiotherapists. Nurses use physiotherapy techniques as a prophylactic treatment for critically ill patients and they do it as a part of nursing role since physiotherapy performs to all intubated and mechanically ventilated patients, regardless of their current health statues [(6)].

One of the most significant aspects of nursing care for ICU patients is the nursing care plan, and one of the key tactics is the promotion of education level, Nurse education can improve nursing care if it is done and structured based on the requirements of nurses and sound concepts [(7)].

As a result, a competent nursing personnel training is critical, and patient improvement is more dependent on nurses who have received outstanding training [(8)].

Efficient teaching techniques are vital tools that can assist students" gain success in the classroom. Each student has a unique personality and studying abilities [(9)].

METHODOLOGY

Pre-experimental (one group pre-test- post-test) design was carried out to evaluate the Effectiveness of Interventional Program on Nursing Staff Practices regarding Physiotherapy Protocol in Intensive Care Unit at AL-Nasiriyah Heart Center and AL-Nasiriyah General Hospital in AL-Nasiriyah city.

The researcher developed the study tools based on the nurses' preliminary assessment results and a review of relevant literature and research. Program's contents were evaluated by experts from several fields. Based on the recommendations and ideas of these experts, the program's contents were modified.

The content validity of the program (knowledge and practice) was determined by a panel of 16 experts, all have over five years of expertise in their profession, to examine into the contents of the study tools.

A pilot study was conducted on 10 nurses who worked in the intensive care unit to determine the study tools' reliability. The nurses in the pilot study had the same parameters as the original study sample. Participants are submitted to the test and after two weeks the participant exposures to retest.

The study subject consists of (75) nurses working in AL-Nasiriyah Heart Center and AL-Nasiriyah General Hospital in AL-Nasiriya city. After the researcher has done the pre - test to the nurses who working in ICU, the researcher implemented the interventional program through four- classroom session to the study sample about physiotherapy protocol in intensive care unit. The researcher employed a practice checklist that includes (14) items related to physiotherapy protocol in intensive care units to assess the effectiveness of the intervention program on nursing staff practices.

RESULTS

Table 1: Total Nurses' knowledge in pre-test and post-test concerning physiotherapy program. N= 75

Knowledge Domains	Pre - test		Post - test	
	Mean	%	Mean	%
Anatomy and physiology	1.96	33.8%	4.4	88 %
Cases need physiotherapy	2.24	44.8%	4.29	85.8%
Techniques of Physiotherapy	1.893	37.86 %	4.22	84.4 %
Secretion suctioning	3.64	36.4 %	8.24	82.4%
Total knowledge of physiotherapy	9.73	38.9 %	21.16	84.64%

Table (1) demonstrates the improvements of nurses' knowledge toward physiotherapy program in different domains in addition to total nurses' knowledge, the total knowledge level had

been changed in the pretest from (38.9%) to (84.64%) in the post-test.Table (2) demonstrates the improvements of nurses' practice toward physiotherapy program in different domains in addition to total nurses practice, the total practice level had been changed in the pre-test from (24.7%) to (70.6 %) in the post-test.

Table 2: Total Nurses' Practice in pre-test and post-test concerning physiotherapy program. N= 75

Physiotherapy technique	Pre- test		Post - test	
	Mean	%	Mean	%
Manual chest clearance techniques (percussions)	1.18	39.5%	2.4667	82.22 %
Manual chest clearance techniques)vibrations(	0.0	0.0 %	2.1467	71.5 %
Manual chest clearance techniques)shaking(	0.0	0.0 %	2.0933	69.7 %
Positioning a patient in bed	1.05	35 %	2.0400	68 %
Airway suctioning	1.29	43 %	2.2800	76 %
Deep breathing exercises	0.64	21.3 %	1.9733	65.7 %
Positioning a patient out of bed	0.866	28.8 %	1.9333	64.4 %
Postural drainage	0.56	18.6 %	1.9333	64.4 %
Nebulization	1.28	42.6 %	2.3067	76.8 %
Incentive spirometer	0.0	0 %	1.9867	66.2 %
Blowing up a glove	0.64	21.3 %	2.0133	67.1 %
Inspiratory muscle training	0.013	0.4 %	2.0133	67.1 %
Implementation and supervision of non-invasive ventilator support (CPAP)	1.5	50 %	2.5067	83.5 %
Active involvement in weaning a patient from MV	1.3	43.3 %	1.9600	65.3 %
Total	10.38	24.7 %	29.65	70.6 %

DISCUSSION

The study's findings revealed that the nursing staff's knowledge of the Physiotherapy Protocol in Intensive Care Unit in the pretest test was low (the mean was 9.73, 38.9 %) as shown in Table (1). After implementing the intervention program, the nursing staff's knowledge improved in the post-test (21.16, 84.64% it was the mean).

There are many studies that agree with this result. One of them found a statistically significant effect of the program to increase participant knowledge in post-test [10].

Regarding the practices, the findings of the study revealed that nursing staff practices connected to physiotherapy Protocol in Intensive Care Unit in the pretest were low (the mean was 10.38, 24.7 %), as shown in Table (2).

The results demonstrated a considerable practice improvement following the post-test and after completing an interventional program (29.65, 70.6 % it was the mean) as shown in Table (2).

The study's findings were similar to many studies One of these studies shows a significant improvement in total score of nurses' practice of nurses pre, immediate and one-month post intervention [11].

CONCLUSIONS

The results of this study demonstrated that the interventional program was an effective educational tool for increasing nurses' knowledge and practice regarding physical therapy protocol in many domains that includes Anatomy and physiology, indication of Physiotherapy, techniques and other domains.

Recommendations:

1. More studies should be done regarding the physiotherapy protocol in ICU in the various of Iraq governorates.
2. Effectively activating the Continuing Education Unit to give many lectures and training courses regarding the physical therapy protocol.
3. Application of physiotherapy guidelines issued by the The American Association of Respiratory Care's (AARC).
4. Nurses should be trained in the physiotherapy protocol.
5. Providing many Physiotherapy devices in the intensive care units.

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Ethical considerations: all Nurses in AL-Nasiriyah Heart Center and AL-Nasiriyah General Hospital were filled the consent sheet before the sampling process.

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Conflict of interest: There are no organizations or individuals with whom I have a conflict of interest.

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